

AUS920010423US1

Patent Application

FACILITATING INTERNATIONAL CUSTOMS PLANNING AND CLEARANCE  
WITH RESPECT TO CUSTOMS CLEARANCE

Inventors: Rabindranath Dutta

5

Dwip N. Banerjee

BACKGROUND OF THE INVENTION

Field of the Invention

10

The field of the invention is methods and systems facilitating international customs planning and clearance, and more particularly, methods and systems for facilitation of customs planning and clearance.

15

Description of Related Art

20

Customs regulations govern the movement of goods into and out of a country. With advances in technology, the world is becoming a smaller place. Both international customs planning and clearance and the quantity of goods moved in international trade and in connection with international customs planning and clearance have grown phenomenally in the recent past. Crossing borders with goods, however, entails adherence to different sets of rules and regulations for different nations. Every international traveler has to pass through customs checks and these checks are some of the most irritating and time-consuming aspects of international customs planning and clearance. The emergence of new technologies in the form of wired or wireless data communications has offered new opportunities for improved user experiences while complying with customs regulations.

Goods can be excludable or dutiable for many reasons, many of which are very difficult to analyze in advance. In the United States, for example, at the time of this writing, there are import restrictions regarding origins of goods, as for example, goods from Cuba, Afghanistan, Iran, Iraq, Libya, Serbia, and Sudan. There are restrictions 5 on categories of goods, as for example, fish and wildlife products, food and plant products, alcohol, tobacco, firearms, ammunitions, medicines, and narcotics. There are trademark and copyright limitations on imports of counterfeit goods.

Even professional importers find it difficult to import goods without violating 10 customs regulations. The U.S. Department of Commerce has a program, known as the “Informed Compliance Strategy,” designed to improve voluntary compliance with U.S. customs regulations. The program is founded upon the observations, among other things, that (1) more than sixty percent of U.S. import value is attributable to the top 1000 importers, (2) about twenty percent of imports fail to comply with U.S. 15 customs regulations, and (3) most such failures to comply are honest. The U.S. Customs Service’s administrative regulations known as the “Customs Valuation Encyclopedia,” subtitled “An Informed Compliance Publication,” in its January 2001 version, is 452 pages in length. Even honest, professional, expert importers cannot figure out how to import goods into the United States without violating customs 20 regulations.

The difficulty of complying with customs regulations is compounded across many countries, and is essentially unmanageable for typical international travelers who are not professional importers. Typical international travelers are presented with customs 25 declarations forms on board aircraft, trains, or ships at sea a short time before arriving at a customs check point in an air terminal, port, or border crossing. For example, in arriving in the United States, travelers are typically required to complete a Declaration, U.S. Customs Form CF-6059B, and, for goods that the traveler shipped

separately, a Declaration of Unaccompanied Articles, U.S. Customs Form CF-255. The forms make no pretense of providing full explanations of the customs regulations. Even if the forms did fully explain importability and dutiability of goods declared, it would be too late. The goods are already purchased, in the possession of 5 the traveler, and the plane, ship, or train is already nearing the customs check point.

The scope and application of such customs rules and regulations, moreover, varies considerably from nation to nation. It is very difficult, given present information availability and systems quality, to know with certainty in advance of arriving in a 10 port of entry, for example, whether goods will be excluded or subjected to duty. Travelers can easily find their plans frustrated or ruined. The presence in systems of international customs planning and clearance of goods particularly at risk of encountering exclusion or duty, goods that might not have been transported if an importer had had better information, unduly burdens systems of international customs 15 planning and clearance and damages the experience of international customs planning and clearance for many travelers.

For all these reasons, therefore, there is an ongoing need for improvements in methods and systems for, and the experience of, international customs planning and 20 clearance with respect to customs planning and clearance.

SUMMARY OF THE INVENTION

Aspects of the invention include a method for facilitating customs planning and clearance that includes creating in an international customs server, in response to a

- 5 signal communicated through a client device coupled for data communications through at least one internet connection to the international customs server, a customs planning record; creating, in dependence upon the customs planning record, a customs declaration form for a destination country; and submitting the customs declaration form to a customs declaration forms database for the destination country.

10

In typical embodiments, client devices include kiosks at airports, workstations installed in the backs of passenger chairs in airplanes, personal computers on the International Space Station, and hand-held personal data administrators. In many embodiments, the at least one internet connection is wireless.

15

In typical embodiments, the customs planning record includes customs data describing goods for import, the customs data including identification of an importer and of a destination country. In typical embodiments, the international customs server is a software application installed and operating on one or more computers, the 20 software application further comprising software routines storing and retrieving customs planning records, validating goods described in customs planning records against customs regulations stored in customs regulations databases, and submitting to customs databases declaration forms prepared in dependence upon the customs planning records.

25

Typical embodiments include creating in dependence upon the customs planning record a customs declaration form for the destination country further comprises reading customs data from a customs planning record and inserting the read customs

data into a declaration form. In typical embodiments, submitting the customs declaration form to a customs declaration forms database for the destination country further includes communicating the form as electronic data communications through at least one internet connection.

5

Typical embodiments include validating the goods described in a customs planning record. In typical embodiments, validating the customs planning records includes comparing the goods described by customs data in the customs planning record to customs regulations governing the goods described by the customs data in the 10 customs planning record and reporting to an importer through the client device a result of the comparison. Typical embodiments include storing the result of the comparison in the customs planning record. In typical embodiments, a customs planning record includes a customs planning record form having a structure, wherein the structure of the customs planning record form is dependent upon customs 15 regulations.

The foregoing and other objects, features and advantages of the invention will be apparent from the following more particular description of a preferred embodiment of the invention, as illustrated in the accompanying drawing wherein like reference 20 numbers represent like parts of the invention.

**BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 is a block diagram of an embodiment of the invention.

- 5    Figure 2 is a process flow diagram of various exemplary aspects and embodiments of the invention.

Figure 3 is a process flow diagram of exemplary embodiments illustrating a use case.

T00200-96096860

## DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

## Introduction

5

The present invention is described primarily in terms of methods for facilitating customs planning and clearance. Persons skilled in the art, however, will recognize that any computer system that includes suitable programming means for operating in accordance with the disclosed methods also falls well within the scope of the present invention.

10 invention.

Suitable programming means include any means for directing a computer system to execute the steps of the method of the invention, including for example, systems comprised of processing units and arithmetic-logic circuits coupled to computer memory, which systems have the capability of storing in computer memory, which computer memory includes electronic circuits configured to store data and program instructions, programmed steps of the method of the invention for execution by a processing unit. The invention also may be embodied in a computer program product, such as a diskette or other recording medium, for use with any suitable data processing system.

20 processing system.

Embodiments of a computer program product may be implemented by use of any recording medium for machine-readable information, including magnetic media, optical media, or other suitable media. Persons skilled in the art will immediately recognize that any computer system having suitable programming means will be capable of executing the steps of the method of the invention as embodied in a program product. Persons skilled in the art will recognize immediately that, although most of the exemplary embodiments described in this specification are oriented to

software installed and executing on computer hardware, nevertheless, alternative embodiments implemented as firmware or as hardware are well within the scope of the present invention.

5

Definitions

In this specification, the terms “field,” “data element,” and “attribute” are used as synonyms, referring to individual elements of digital data. Aggregates of data elements are referred to as “records” or “data structures.” Definitions of complex 10 data structures that include member methods, functions, or software routines in addition to data elements are referred to as “classes.” Instances of complex data structures are referred to as “objects” or “class objects.”

The terms “client,” “client device,” and “device” are used as synonyms in this 15 specification, referring to any device capable of accessing a server through a network. Examples of client devices are personal computers, special purpose devices that are client, internet-capable personal data organizers, and others that will occur to those of skill in the art. Various embodiments of client devices are capable of wired and/or wireless network access. The use as a client device of any instrument capable of 20 accessing a server through a network is well within the present invention.

The term “network” is used in this specification to mean any networked coupling for data communications. Examples of networks useful with the invention include intranets, extranets, internets, local area networks, wide area networks, and other 25 network arrangements as will occur to those of skill in the art. The use of any networked coupling from client devices to one or more content servers is well within the scope of the present invention.

“World Wide Web,” or more simply “the web,” refers to the well-known system of internet protocol (“IP”) servers that support specially formatted documents, documents formatted in a language called HTML for HyperText Markup Language. The term “web” is used in this specification also to refer to any server or connected 5 group or interconnected groups of servers that implement the HyperText Transport Protocol, “HTTP,” in support of URLs and HTML documents, regardless whether such servers or groups of servers are coupled to the World Wide Web as such.

“Duty” is the amount of money an importer pays on items coming from another 10 country. Duty is a kind of tax or tariff collected on imported goods.

“Dutiable” describes items on which duty is required to be paid. Most items have specific duty rates, which are determined by a number of factors, including where the importer acquired the item, where it was made, and what it is made of.

15 To "declare" means to tell a customs official officer about any item acquired abroad that an importer wishes to bring into a country. Most customs declarations are written; some are oral. For example, importers typically are required to declare alterations made in a foreign country to a suit the importer already owned, and 20 importers are typically required to declare any gifts acquired in other countries. The official customs forms described in this specification generally are forms in the nature of customs declarations, sometime referred to simply as “customs forms,” “declaration forms,” or “declarations.”

25 An “importer” is a person responsible for importing, or sometimes exporting, goods through customs. In this specification, the term “importer” is used generally to refer to a person responsible for moving goods through customs, whether the motion is an export or an import. Importers include owners of goods, purchasers of goods,

consignees of shipments or merchandise, and persons holding import licenses or export licenses when such licenses are required by the customs regulations of any country.

5

Detailed Description

Turning now to Figure 1, a first aspect of the invention is seen embodied as a system (100) for facilitating international customs planning and clearance. The illustrated embodiment includes means for creating (160), in response to signals (107) 10 communicated through client devices (104) customs planning records (122) to be stored within an international customs server (160). The client devices in typical embodiments, as in the embodiment shown in Figure 1, are coupled for data communications through an internet (105) to the international customs server (160). The international customs server is means for creating customs planning records in 15 that the server is a collection of computer programs installed and operating upon one or more computers including computer processors and computer memory. In the illustrated embodiment, the international customs server itself comprises customs planning records (122), customs planning record forms (118), customs regulations (114), and declaration forms (162).

20

In the embodiment of Figure 1, the customs regulations are customs rules and regulations, organized by country, governing import and export of goods to and from countries. The customs planning record forms are data structures containing data elements identifying and setting forth information pertinent to customs clearance in 25 destination countries. The customs planning record forms are defined in dependence upon the customs regulations.

- In the illustrated embodiment, the customs planning records are data structures that identify and describe a particular importation of goods into a destination country, an event of international customs planning and clearance upon one occasion for an importer. The structure of the customs planning records, that is, the data elements
- 5 within the customs planning records, are derived from the customs planning record forms (118). In the illustrated embodiment, the declaration forms (162) are official declaration forms prepared on-line within the international customs server using information entered by an importer into a customs planning record.
- 10 The system embodiment as shown in Figure 1 is capable of preparing declaration forms (162) on-line and forwarding them electronically to a customs database (148) in a destination country. In typical embodiments, the electronic forwarding is accomplished via an internet (147). Declaration forms in a destination country's declaration forms database are available for use by customs personnel through
- 15 customs workstations (152). Upon import of goods into a destination country, in typical embodiments, a customs workstation is capable of forwarding a completed and approved electronic customs form to a central or national customs database (154), such as, for example, the one known in the United States as "ACS," the Automated Commercial System that the United States uses to track, control, and process all
- 20 commercial imports. As of this writing, the example ACS is scheduled in the United States for a massive upgrade known as "ACE," the Automated Commercial Environment.

In accordance with the illustrated embodiment, the client devices (104) can be

25 wireless devices or they can be coupled electronically to the international customs server. The client devices in various embodiments of the invention include workstations in kiosks at airports, workstations installed in the backs of passenger chairs in airplanes, personal computers, and hand-held personal data administrators.

Persons skilled in art will realize that any device capable of functioning as a client or terminal to computer application software comprising a server, any device capable of supporting an internet connection, any device capable of supporting a web client or browser in client-server environments or the environment of the World Wide Web is 5 useful as a client device within the scope of the present invention. In fact, there are many different kinds of such devices that will occur to those of skill in the art, and all of them useful as described are well within the scope of the invention.

- 10 Turning now to Figure 2, a further first aspect of the invention is seen as methods for facilitating international customs planning and clearance. A first embodiment illustrated in Figure 2 includes creating, in response to a signal (120) communicated through a client device coupled for data communications via an internet to an international customs server (160), a customs planning record (122) to be stored within the international customs server. The illustrated embodiment includes also 15 creating (136) in dependence upon the customs planning record, a customs declaration form (162) for the destination country. The illustrated embodiment further includes submitting (164) the customs declaration form to a customs declaration forms database (148) for the destination country.
- 20 In typical embodiments, customs planning records (122) comprise customs planning record forms (118), wherein the customs planning record forms (118) are dependent (144) upon customs regulations (114). More specifically, in order for the customs data in the customs planning records to be used, as it eventually is intended in typical embodiments, for creating declaration forms, the customs planning records record 25 data pertinent to the customs declaration forms of the destination country for import of particular goods for a particular importer.

For example, a purchasing agent, a business traveler, a citizen and resident of the U.S. who is returning from a purchasing trip in the United Kingdom will typically wish to create and submit as a customs declaration form a United States Customs Form CF-6059B. The conclusion that the pertinent form is a CF-6059B depends upon customs regulations for the United States stored in a customs regulations database as part of an international customs server. The customs planning record created for this example American returning with goods purchased in Great Britain will typically therefore be formulated to include the data needed to create a U.S. Customs Form CF-6059B, including for example, countries of origin and categories of goods sought to be imported into the United States.

This is the sense in which, in typical embodiments, customs planning records (122) comprise customs planning record forms (118), wherein the customs planning record forms (118) have structures that are dependent upon customs regulations. And as shown in Figure 2, in embodiments of the kind illustrated, if the example American is taken as the importer (102), then when the importer (102) requests (108) a customs planning record, the international customs server retrieves (116) from among the customs planning record forms (118) a customs planning record form having data elements appropriate to import of goods from England to the United States, and provides a copy of the customs planning record form, which, after the traveler provides the information comprising the form, is stored (120) as a customs planning record (122).

Persons of skill in the art will recognize immediately that client devices include workstations in kiosks in airports as well as workstations installed in the back of a passenger chairs in airplanes. Typical embodiments of the invention utilize as client devices personal computers and hand-held personal data administrators. Other client devices useful with the present invention will occur to those of skill in the art, and all

such client devices are well within the scope of the present invention.

- In the embodiment illustrated, all of the communications between the client device (104) and the international customs server (160), including for example the
- 5   communications indicated by reference numbers (115), (116), (120), (124), (130),  
     (134), and (135), are implemented through internet connections. In some  
     embodiments the internet connections are wireless. In some embodiments internet  
     connections are implemented through wired connections. As internet connections are  
     one kind of network connection, other embodiments implement data communications  
10   between the client device and the international customs server by use of intranets,  
     internets, direct dial-up connections, or dedicated lines. Any means of data  
     communication between the client device and the international customs server are  
     well within the scope of the present invention.
- 15   Moreover, it is useful to note that a client device in some embodiments is not a client  
     in the sense of traditional client-server architectures because the international customs  
     servers of the present invention are implemented in typical embodiments as Web  
     servers, HTTP servers, and client devices are typically implemented with browsers.  
     Because internet-enablement is so typical among embodiments of the present  
20   invention, for convenience, this specification refers to a device used by an importer to  
     communicate with an international customs server as a client device. In fact, the use  
     of any device capable of implementing a data communications connection of any kind  
     and communicating commands or requests and receiving responses to and from an  
     international customs server is well within the scope of the present invention.
- 25   In typical embodiments of the kind illustrated in Figure 2, customs planning records  
     (122) comprise customs data describing goods for import, the customs data including  
     identification of importers, identification of destination countries, identification of

- countries of origin, and identification of categories of goods. In embodiments of the kind illustrated, the international customs server (160) is a software application installed and operating on one or more computers, the software application further comprising software routines for storing (120) and retrieving (128, 138) customs planning records, validating (132) goods described in customs planning records against customs regulations stored in customs regulations databases (114), and submitting (164) to customs databases (148) declaration forms (162) prepared in dependence upon (138) the customs planning records (122).
- 10 Embodiments of the kind illustrated typically include creating (136) in dependence upon customs planning records (122), declaration forms (162) for destination countries, as well as reading (138) customs data from a customs planning record (122) and inserting (139) the read customs data into a customs declaration form (162). Embodiments of the kind illustrated typically include submitting (164) the customs
- 15 declaration form (162) to a customs declaration forms database (148) for the destination country. In typical embodiments, submitting the declaration form includes communicating the form as electronic data communications through at least one data communications connection. In typical embodiments, the data communications connection is an internet connection.
- 20 Embodiments of the kind illustrated typically include a capability of validating (132) the goods described in a customs planning record (122). In typical embodiments, validating goods described in a customs planning record includes comparing (133) the goods described by customs data in the customs planning record (122) to customs
- 25 regulations (114) governing the goods described by the customs data in the customs planning record and reporting (130) to the importer (102) through the client device (104) a result of the comparison. In some embodiments, validating includes storing (129) the result of the comparison in the customs planning record.

Turning now to Figure 3, a further aspect of the invention is illustrated in terms of a use case. In an embodiment as shown in Figure 3, an importer (102) uses a client device (104) to query (115) a customs regulations database (114) in an international customs server (160). The query (115) advises the importer of the customs regulations for a destination country. If, for example, the importer is traveling with goods for import to the United States asserting a query regarding rules for importing goods to the United States, the query advises the importer that the importer must submit a Customs Declaration Form CF-6059B. If the importer has had goods shipped directly from England to the importer's place of business in the United States, the query advises the importer that the importer will need a Declaration Of Unaccompanied Articles, U.S. Customs Form CF-255. In typical embodiments, the query advises the importer also of additional rules of the destination country regarding imports such as limitations regarding countries of origin or particular categories of goods such as alcohol or tobacco. Alternatively to beginning with a query, the importer proceeds directly to preparation of a customs planning record (120).

In the example use case as illustrated in Figure 3, the importer (102) signals the international customs server to create (120) a customs planning record (122) within the international customs server (160). In typical usage, the importer decides based upon the query (115) that the importer reasonably can expect to clear customs without difficulty in the importer's destination country. The importer then signals creation of (120) a customs planning record (122) describing a goods to be imported, their countries of origin, their categories, whether the goods are alcohol, tobacco, firearms, ammunition, drugs, medicines, and so on, and whatever other information is needed to support customs clearance in the destination country. The customs planning record (122) contains data elements needed to support customs clearance in the destination country because the customs planning record contains data elements derived from a

customs planning record form (118) that is fashioned in dependence (144) upon the customs regulations (114) for the destination country.

After creating a customs planning record describing the imports under consideration,

- 5      After creating a customs planning record describing the imports under consideration, in typical usage of the embodiment illustrated in Figure 3, the importer validates (124) the goods described in the customs planning record for likelihood of customs clearance in the destination country. The international customs server validates the goods described in the customs planning record by comparing (126) the information in the customs planning record with the information in the customs regulations
- 10     regarding imports to the destination country. Validating includes informing (125) the importer through the client device whether the information provided by the importer in the customs planning record, as compared with the customs regulations for the destination country, indicates any potential difficulties regarding the importer's importing particular goods into the destination country.

15

Having queried the customs regulations (115), created a customs planning record (120), and validated (124) the goods described in the customs planning record, the importer in typical usage has confidence that the importer will be able to clear customs without unexpected exclusions or duties in the destination country.

- 20     Alternatively, the importer decides based merely upon the query that the importer is reasonably likely to have no difficulties with customs clearance in the destination country and therefore proceeds to create and submit a declaration form without validating the customs planning record. Either way, if the importer decides to proceed with the import in question, the importer in typical usage orders through the client device the creation (134) and submission (146) to a declaration forms database (148) in the destination country or port of entry an official on-line declaration form (162) for the destination country.
- 25

When the importer arrives (302) in the customs area at the port of entry in the destination country, the declaration form (162) is available to customs personnel on customs workstations (152). When the importer clears customs in the destination country, usage of the illustrated embodiment includes available printing of the 5 customs clearance receipts and forms pertinent to the particular destination country.

In cases where an importer is confident of customs clearance without difficulty in a destination country, as when for example the importer has recently traveled to the destination country and therefore knows that the importer is unlikely to have goods 10 denied importation or have goods subjected to unexpected duties, then the importer typically does not effect a query (115) or a validation (124). In such cases, the importer proceeds directly to creation (120) of a customs planning record (122) and creation and submission of a declaration (162). In some embodiments of the invention, creating (134) a customs planning record automatically triggers (135) 15 validation, so that importers can always be assured of being informed of risks, if any, of encountering import difficulties in the destination country.

In typical usage of embodiments of the inventions there is no requirement for the importer to touch a piece of paper, although the importer naturally optionally prints a 20 copy of the declaration if the importer wishes to do so. In usage of typical embodiments, there is no need for an importer to wait until the importer is on an airplane nearly at a port of entry in the destination country before filling out a declaration form. On the contrary, in typical usage, importers prepare on-line and submit to customs databases worldwide declaration forms from anywhere in the world 25 or in outer space, so long as a data communications connection is available from a client device to an international customs server of the present invention. In usage of typical embodiments, there is no need for an importer to wait until the importer is on the ground in a port of entry of a destination country to discover the importer's

relative likelihood of encountering unexpected exclusion of goods or unexpected duties.

It will be understood from the foregoing description that various modifications and changes may be made in the various embodiment of the present invention without departing from its true spirit. It is intended that this description of exemplary embodiments is for purposes of illustration only and should not be construed in a limiting sense. The scope of this invention should be limited only by the language of the following claims.

10